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| 09/986,714      | 11/09/2001  | Kiichiroh Iijima     | 111085              | 5878             |

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EXAMINER

BRAUN, FRED L

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2852

DATE MAILED: 08/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/986,714

Applicant(s)

IIJIMA ET AL.

Examiner

Fred L. Braun

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,9 and 11-15 is/are rejected.
- 7) ☒ Claim(s) 3,5-8 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2852

1. The abstract of the disclosure is objected to because it fails to set forth a concise statement of that subject matter which applicants consider to be their contribution to the art to which the invention pertains; and it uses reference numerals in the abstract. More specifically, the present abstract merely sets forth structure which is well known in the art as evidenced by the prior art cited hereinbelow. Correction is required. See MPEP § 608.01(b).

2. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Art Unit: 2852

Where applicable, the abstract should include the following: (1) if a machine or apparatus, its organization and operation; (2) if an article, its method of making; (3) if a chemical compound, its identity and use; (4) if a mixture, its ingredients; (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

5. Claim 15 is objected to under 37 CFR 1.75(d)(1) because there appears to be no clear antecedent basis and/or support for the plurality of belts being arranged to be independently

Art Unit: 2852

extensible from each other, as recited on lines 4 and 5 of said claim 15. Moreover, applicants fail to define what the meaning and/or parameters of said claim language, noted supra, is limited to.

6. The drawings are objected to because they fail to show the structural details of the belt arrangement recited in claim 15 as required by 37 CFR 1.83(a). Moreover, the position restricting member for restricting movement of the second rotation member along an axis direction, recited on lines 3 and 4 of claim 8, does not appear to be shown in the drawings. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Yu.

It is submitted that element 60 (Fig 2) of the patent to Yu is the drive source for the image forming apparatus of same, recited in claim 1 of the subject application; and elements 56 (Fig 2), 100 (Fig 7), 110, 114 (Fig 8), respectively, the driving force transmission apparatus for transmitting the driving force produced by the drive source 60 (Fig 2) to the image carrier 10 (Fig

Art Unit: 2852

2) wherein element 100 (Fig 7) is the endless-shaped flat belt of the driving force transmission apparatus having a plurality of through holes along the travel direction thereof; and element 110 (Fig 8) is the rotation member having a plurality of projections 114 (Fig 8) to which said plural through holes 102 (Fig 7) of said belt 100 (Fig 7) are fitted.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. The second claim of the two claims of the subject application which were both originally numbered as "claim 9" has been renumbered or changed to-- claim 10--in accordance with 37 CFR 1.126.

Art Unit: 2852

12. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yu as applied to claim 1 above, and further in view of Markovics.

The patents to Markovics (column 4, lines 1-22) suggest to one having ordinary skill in the art that a single flat belt 43a (Fig 3) be used to drive a plurality of image carriers 2 (Fig 3) in order to guarantee that all of the photoreceptors have the same surface speed.

Therefore, to use the drawing force transmission apparatus having a single flat belt of Yu to drive a plurality of image carriers so that the image carriers are guaranteed to have the same surface speed, as suggested by Markovics, would be an obvious modification of the prior art to one having ordinary skill in the art at the time applicants invention was made.

13. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yu as applied to claim 1 above, and further in view of Pfleger.

The patent to Pfleger (page 3, column 1, line 31 through column 2, line 35) discloses that it is well known in the art to provide a flat endless belt with a plurality of columns of through holes along the belt travel direction, as recited in claim 2, in order to decrease vibrations of the belt and also to dissipate the heat generated by the internal friction of the belt. With respect to claim 4, the patent to Pfleger (page 2, column 1, lines 45-72 of same) also discloses that an endless belt which is formed of a plurality of superimposed sheets 8 and 9 (Fig 4), respectively, enables the belt to elongate and compress in order to relieve shearing stress on the belt.

Art Unit: 2852

Therefore, to provide the flat endless belt of Yu with a plurality of columns of through holes along the belt travel direction in order to decrease vibrations of the belt and to also dissipate the heat generated by the belt friction, as suggested by Pfleger, and to form the flat endless belt of Yu of a plurality of superimposed sheets to thereby enable the belt to elongate and compress in order to relieve shearing stress on the belt, as also suggested by Pfleger, would be an obvious modification of the prior art to one having ordinary skill in the art at the time applicants invention was made.

14. Claims 11-15 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification and/or drawings fail to adequately disclose how the plurality of endless-shaped flat belts are superimposed with each other so that their through holes coincide with each other are and fitted or cooperate with the rotation member when they are superimposed with each other, as recited on lines 2-8 of base claim 11 thereby rendering said base claim 11 and claims 12-14, which depend from claim 11, as being directed to an insufficient disclosure. With respect to base claim 15, the specification and/or drawings fail to adequately disclose how portions of a plurality of belts are fixed to each other and also arranged to be independently extensible from each other, as recited on lines 2-5 of claim 15, thereby rendering said base claim 15 as being directed to an insufficient disclosure.



Art Unit: 2852

15. Claims 11, 12 and 15, insofar as being sufficiently disclosed, are further rejected under 35 U.S.C. 103(a) as being unpatentable over the Japanese publication by Noguchi et al.

It is submitted that the plurality of belts 51, 52 (Fig 2) disclosed by the Japanese publication by Noguchi et al which each have a plurality of through holes along the direction of travel of said belts and which through holes are fitted to cooperate with a plurality of projections 8 (Fig 3) on a rotation member 62a (Fig 3), as recited in claim 11, for example, are superimposed with each other or are coupled with each other when they both pass over or are worn by rotation members 60 (Fig 2) of Noguchi et al. With respect to claim 15, as broadly as recited, it is submitted that the plurality of the belts of Noguchi et al, as they pass over or are worn by rotation member 60 (Fig 2) of same, are fixed to each other at that junction and still independently extensible as they are worn or pass over a different number of rotation members 62a, 62b, 61Y, 61M, etc. (Fig 2).

In view of the intervening date of the Japanese publication by Noguchi et al, applicants attention is directed to the procedure set forth in **MPEP** section 201.15.

16. The patents to Freedlander, Smith and Sanders, respectively, are cited of interest to further show different shapes of through holes which are used for an endless flat belt to drive a load; and the patent to Negoro et al is cited of interest to show a drive belt with through holes therein which is prevented from meandering.

Art Unit: 2852

17. Claims 3, 5-8 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18. Claim 14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, first paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

19. Any inquiry concerning this communication should be directed to Fred L Braun at telephone number (703) 308-0128.

*Fred L Braun*  
FRED L BRAUN  
PRIMARY EXAMINER  
ART UNIT 2852

F L BRAUN/pj

07/23/03